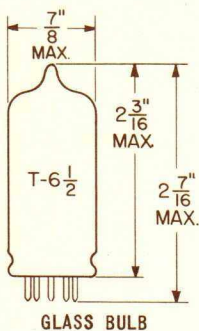


TUNG-SOL

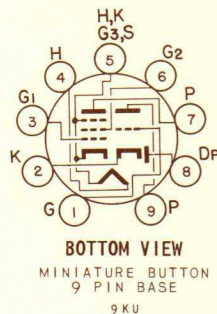
PENTODE-TRIODE-DIODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HEATER

12.6 VOLTS 0.32 AMP.

ANY MOUNTING POSITION



THE 12FR8 IS A PENTODE, TRIODE, DIODE, IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS INTENDED FOR SERVICE AS AN IF AMPLIFIER, AF AMPLIFIER AND SECOND DETECTOR IN RECEIVERS WHERE THE HEATER, PLATE AND SCREEN GRID POTENTIALS ARE OBTAINED DIRECTLY FROM AN AUTOMOTIVE BATTERY.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

PENTODE GRID #1 TO PLATE (MAX.)	.015	$\mu\mu\text{f}$
PENTODE INPUT	8.5	$\mu\mu\text{f}$
PENTODE OUTPUT	5.5	$\mu\mu\text{f}$
TRIODE GRID TO PLATE	1.7	$\mu\mu\text{f}$
TRIODE INPUT	2.6	$\mu\mu\text{f}$
TRIODE OUTPUT	2.0	$\mu\mu\text{f}$
COUPLING, PENTODE GRID #1 TO TRIODE GRID (MAX.)	.012	$\mu\mu\text{f}$
COUPLING, PENTODE GRID #1 TO DIODE PLATE (MAX.)	.004	$\mu\mu\text{f}$
COUPLING, TRIODE GRID TO DIODE PLATE (MAX.)	.17	$\mu\mu\text{f}$
COUPLING, TRIODE PLATE TO DIODE PLATE	.8	$\mu\mu\text{f}$

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

	PENTODE	TRIODE	DIODE	
HEATER VOLTAGE ^A	12.6	12.6		VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE	---	± 16	---	VOLTS
MAXIMUM PLATE VOLTAGE	16	16	---	VOLTS
MAXIMUM GRIDS #2 & #4 VOLTAGE	16	---	---	VOLTS
MAXIMUM GRIDS #2 & #4 SUPPLY VOLTAGE	16	---	---	VOLTS
MAXIMUM PENTODE GRID CIRCUIT RESISTANCE	10	---	---	MEGOHMS
MAXIMUM TRIODE GRID CIRCUIT RESISTANCE	---	10	---	MEGOHMS
MAXIMUM PLATE CURRENT	---	---	5	MA.

A

THIS TUBE IS INTENDED TO BE USED IN AUTOMOTIVE SERVICE FROM A NOMINAL 12 VOLT BATTERY SOURCE. THE HEATER IS THEREFORE DESIGNED TO OPERATE OVER THE 10.0 TO 15.9 VOLTAGE RANGE ENCOUNTERED IN THIS SERVICE. THE MAXIMUM RATINGS OF THE TUBE PROVIDE FOR AN ADEQUATE SAFETY FACTOR SUCH THAT THE TUBE WILL WITHSTAND THE WIDE VARIATION IN SUPPLY VOLTAGES.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

	PENTODE	TRIODE	DIODE ^B	
HEATER VOLTAGE	12.6	12.6		VOLTS
HEATER CURRENT	0.32	0.32		AMP.
PLATE VOLTAGE	12.6	12.6	10	VOLTS
GRID #2 VOLTAGE	12.6	---	---	VOLTS
GRID #1 VOLTAGE	-0.8 ^C	-0.6 ^C	---	VOLTS
PLATE CURRENT	1.9	1.0	2	MA.
SCREEN CURRENT	.7	---	---	MA.
TRANSCONDUCTANCE	2700	1200	---	μ MHOS
PLATE RESISTANCE (APPROX.)	.40	---	---	MEGOHMS
AMPLIFICATION FACTOR	---	10	---	
GRID #1 VOLTAGE FOR TRANSCONDUCTANCE = 30 μ MHOS	-2.8	---	---	VOLTS
GRID VOLTAGE FOR PLATE CURRENT OF 10 μ A	---	-3.5	---	VOLTS

^B AVERAGE CHARACTERISTICS.^C AVERAGE BIAS DEVELOPED ACROSS A 2.2 MEGOHM GRID RESISTOR.